Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the present application:

Listing of Claims:

Claim 1 (currently amended): A sensor having a transistor with a gate located partially over a source and partially over a drain, comprising:

a well region formed beneath the source such that a portion of the well region extends partially beneath the gate, the well region having a first conductivity type;

a material disposed between the well region and the drain beneath the gate, the material having a predetermined length;

an implant in the material, the implant having said first conductivity type; and

a detection device coupled to the drain by a signal path, wherein the material allows the detection device to be reset to a predetermined state.

Claim 2 (currently amended): The sensor of claim 1, ~~further including an~~ wherein the implant in the material ~~that~~ increases a surface threshold of the transistor.

Claim 3 (original): The sensor of claim 2, wherein the surface threshold of the transistor is increased to at least 0.8 volts.

Claim 4 (previously presented): The sensor of claim 2, wherein the implant is formed to extend between the well region and the drain.

Claim 5 (previously presented): The sensor of claim 3, wherein the implant has a dopant concentration that is less than the well region.

Claim 6 (previously presented): The sensor of claim 2, wherein the implant is a shallow boron implant.

Claim 7 (original): The sensor of claim 2, wherein the predetermined length of the material is at least 20 percent greater than a process minimum.

Claim 8 (original): The sensor of claim 2, wherein the drain is formed by a phosphorous implant level between $3e^{13}$ cm^{-3} and about $6e^{12}$ cm^{-3}.

Claim 9 (original): The sensor of claim 2, wherein the gate has a gate length approximately two times a process minimum.

Claim 10 (original): The sensor of claim 1, wherein the gate is divided into a p-type region and a n-type region.

Claim 11 (previously presented): The sensor of claim 10, wherein the gate has a predetermined length that is approximately two times a process minimum.

Claim 12 (original): The sensor of claim 10, wherein the material is a p-type material.

Claim 13 (previously presented): The sensor of claim 12, wherein the material corresponds to a portion of a p-type substrate that is in proximity to the p-type region of the gate and the portion of the well region extends beneath the n-type region of the gate.

Claim 14 (original): The sensor of claim 10, wherein the drain is formed by a phosphorous implant level of approximately $2e^{12}$ cm^{-3}.

Claim 15 (previously presented): The sensor of claim 10, including an implant region located in the drain extending under the p-type region of the gate such that the drain is not in direct contact with the gate.

Claim 16 (original): The sensor of claim 15, wherein the implant region is a surface boron implant region.

Claim 17 (original): The sensor of claim 1, wherein the detection device is a photo-detector.

Claim 18 (original): The sensor of claim 17, wherein the photo-detector is a photodiode.

~~Claim 50~~ (currently amended): A sensor having a transistor with a gate located partially over a source and partially over a drain formed in a substrate, comprising:

a well region formed to contain one of the source and the drain such that a portion of the well region extends partially beneath the gate, the well region having a first conductivity type;

an implant formed in the substrate to extend between the well region and the other of the source and the drain such that the implant increases a surface threshold of the transistor, the implant having said first conductivity type; and

a detection device coupled to the drain by a signal path, wherein the implant allows the detection device to be reset to a predetermined state when a voltage that is greater than or equal to the surface threshold of the transistor is present on the gate.

Claim 51 (previously presented): The sensor of claim 50, wherein the surface threshold of the transistor is increased to at least 0.8 volts.

Claim 52 (previously presented): The sensor of claim 50, wherein the gate has a predetermined length and the implant extends approximately a half of the predetermined length of the gate.

Claim 53 (previously presented): The sensor of claim 52, wherein the predetermined length of the gate is at least 20 percent greater than a process minimum.

Claim 54 (previously presented): The sensor of claim 52, wherein the predetermined length of the gate is approximately two times a process minimum.

Claim 55 (previously presented): A sensor, comprising:

a transistor having a source, a drain, and a gate located partially over the source and partially over the drain, the gate having a p-type region and a n-type region;

a well region formed to contain one of the source and the drain and to extend partially beneath the gate such that the well region extends a length of one of the n-type and the p-type gate regions; and

a detection device coupled to the drain by a signal path.

Claim 56 (previously presented): The sensor of claim 55, wherein the gate has a predetermined length that is approximately two times a process minimum.

Claim 57 (previously presented): The sensor of claim 55, wherein the well region is a p-type material and the well region extends the length of the n-type gate region.

Claim 58 (previously presented): The sensor of claim 57, further comprising an implant region located in the drain extending under the p-type region of the gate such that the drain is not in direct contact with the gate.

Claim 59 (previously presented): A sensor, comprising:

a transistor having a source, a drain, and a gate located partially over the source and partially over the drain, the gate having a p-type gate region and an n-type gate region;

a well region formed to contain one of the source and the drain and to extend partially beneath the gate, wherein the well region is a p-type material and the well region extends a length of the n-type gate region; and

a detection device coupled to the drain by a signal path.

Claim 60 (previously presented): The sensor of claim 59, further comprising an implant region located in the drain extending under the p-type region of the gate such that the drain is not in direct contact with the gate.